

#### IV. B. 28. Radioactive Waste

- a) Background. Concern about the mitigation of radioactive substance threats to the environment is a direct result of living in the nuclear era. It is especially strong in the United States because of its historical forefront with the highest nuclear technologies. The U.S. Congress has been immersed in the issues since the start of the atomic age and has passed several key pieces of legislation to attack the problems from different angles since the 1950s. Probably the best known of the Acts has been the Atomic Energy Act, which resulted in the Atomic Energy Commission.



Barrels which leaked Plutonium-contaminated soil at the Rocky Flats Nuclear Weapons Site near Golden, Colorado

Rural Development personnel involved in loanmaking and property disposition actions should endeavor to insure that radioactive waste, which could affect candidate properties, has been properly identified and mitigated.

The Rural Development State Environmental Coordinator should be contacted, for follow-up, regarding any instance where the presence of radioactive materials has been identified at a property being considered for loanmaking or foreclosure by the Agency.

- b) Governing Regulations.

(1) Federal.

(A) Atomic Energy Act of 1954, Section 274 U.S.C.

(B) Nuclear Waste Policy Act of 1982.



- (C) U.S. Executive Order 11514, Protection and Enhancement of Environmental Quality.
  - (D) National Environmental Policy Act, 42 U.S.C. 4321.
  - (E) Title 7, Part 1b and 1c, Code of Federal Regulations, U.S. Department of Agriculture's National Environmental Policy Act.
- (2) State.
- (A) Title 25, Article 8, Colorado Revised Statutes 1973, as amended, the Colorado Water Quality Control Act.
  - (B) Title 25, Article 1, Colorado Revised Statutes 1973, as amended.
  - (C) Colorado Radiation Control Act, Section 25-15-101 et seq., Colorado Revised Statutes.
- c) Policy. Uncontrolled radioactive waste presents serious environmental risks requiring proper management to prevent serious degradation of air, water, soil, etc. as well as extreme danger to plant and animal life. Radioactive substances present a high relative level of danger but a different technology applies with regard to handling, processing, storing, etc. than for chemically hazardous materials.

Radioactive waste requires special handling, containment, transportation, and disposal procedures and has traditionally been heavily regulated by Federal and State governments.

Federal Objective. The U.S. Department of Energy (DOE), U.S. Occupational Safety and Health Administration (OSHA), and U.S. Department of Transportation (DOT) has been charged with primary Federal responsibility for overseeing radioactive materials mining, processing, transportation, and disposal procedures.

The Nuclear Waste Policy Act of 1982 established the Office of Civilian Radioactive Waste Management (OCRWM) within the U.S. Department of Energy (DOE) to develop and manage a Federal system for disposing of all spent nuclear fuel from commercial nuclear reactors and high-level radioactive waste resulting from atomic energy defense activities. The statute provides detailed direction for the scientific, technical, and institutional development of the system, and it requires that waste management facilities be licensed by the U.S. Nuclear Regulatory Commission (NRC).

DOE has two active programs for the clean-up of past radioactive pollution incidents: the Formerly Utilized Sites Remedial Action Program (FUSRAP) and the Uranium Mill Tailings Remedial Action Program (UMTRAP).

The Federal presence appears warranted because such matters easily cross State boundaries with respect to commerce, environments, transportation systems, etc.



State Objective. The State of Colorado is required by federal legislation to establish a radioactive waste control program within the State. This is administered by different divisions within the Colorado Department of Public Health and Environment. Ultimately entities involved with these substances must obtain special permits from the State of Colorado to operate facilities; store, transport, and dispose in regard to these materials.

Rural Development Objective. Rural Development should not authorize, fund, or carry out any proposed action, which would adversely affect the environment through an illegal procedure of radioactive materials management. Whenever a proposed action is determined to have the potential for impacting or being impacted by a Federal or State controlled radioactive waste management plan, the Colorado Department of Public Health and Environment should be consulted as early in the environmental impact analysis process as possible to evaluate the possible consequences and protection requirements concerning the action. Most likely such loanmaking and foreclosure actions could be impacted by radioactive waste due to proximity, whether on or off the real property in question.

- d) Classification. All facilities involved with the production, storage, transportation, and disposal of radioactive materials are permitted by the U.S. Department of Energy.

Sites involved with radioactive materials usage and remediation are classified various DOE programs. Radioactive sites, which have been mitigated or are in the process of being mitigated are classified as Uranium Mill Tailings Remedial Action (UMTRA) sites and are involved in a DOE Long Term Surveillance Plan (LTSP).

- e) Agency Jurisdiction.

- (1) Federal. The U.S. Department of Energy oversees the management of radioactive contamination via its Grand Junction Office:

U.S. Department of Energy  
Grand Junction Office  
2597 B ¾ Road  
Grand Junction, Colorado 81503

Contact: Donald Metzler, UMTRA Project Manager @ (970) 248-7612

<http://www.doegjpo.com/>



(2) State.

The Colorado Department of Public Health and Environment (CDPHE), Laboratory and Radiation Services oversees radioactive materials matters within Colorado:

Colorado Department of Public Health and Environment  
Laboratory and Radiation Services  
8100 Lowry Boulevard  
Denver, Colorado 80230-6928

(303) 692-3090

<http://www.cdphe.state.co.us/lr/lrhom.asp>

f) Location of Resource. U.S. Department of Energy (DOE) sites where radiation hazards have existed in the past and which are currently listed as Uranium Mill Tailings Remedial Action (UMTRA)/Long Term Surveillance Plan (LTSP) sites:

(1) Durango:

Selected Compliance Strategy: Passive remediation through natural flushing.

Present Status: Site characterization is in progress.

Fiscal Year 2001 Activities: Complete site characterization activities and initiate preparation of Site Observational Work Plan and Ground Water Compliance Action Plan.

(2) Grand Junction:

Selected Compliance Strategy: Application of Supplemental Standards based on widespread ambient contamination of uranium and selenium in the surface aquifer.

Present status: The Colorado Department of Public Health and the Environment approved the Ground Water Compliance Action Plan. The document is currently in U.S. Nuclear Regulatory Commission review.

Fiscal Year 2001 Activities: Monitoring.



(3) Gunnison:

Selected Compliance Strategy: Passive remediation through natural flushing.

Present Status: Awaiting U.S. Nuclear Regulatory Commission and State of Colorado review of Site Observational Work Plan and Ground Water Compliance Action Plan.

Fiscal Year 2001 Activities: Complete Environmental Assessment and finalize the Site Observational Work Plan.

(4) Maybell:

Selected Compliance Strategy: Application of Supplemental Standards based on widespread ambient contamination.

Present Status: Site activities were complete in October 1996. The site was transferred to the Long-Term Surveillance and Maintenance Program in August 2000.

(5) Naturita:

Proposed Compliance Strategy: Passive remediation through natural flushing.

Present Status: The U.S. Geological Survey has performed geochemical studies under the U.S. Nuclear Regulatory Commission.

Fiscal Year 2001 Activities: Complete conceptual and ground water model, initiate preparation of Site Observational Work Plan.

(6) Rifle:

Selected Compliance Strategy: Natural flushing for all constituents except vanadium. A pilot study will be performed to evaluate the feasibility of an active pump and treat zero-valent iron (ZVI) system for vanadium.

Significant Accomplishments: Completed a pilot study work plan for vanadium treatment by ZVI. Construction of the infrastructure to support the vanadium pilot studies was completed.

Fiscal Year 2001 Activities: Implement institutional controls. Initiate pilot study for the ZVI treatment.



(7) Slick Rock:

Selected Compliance Strategy: Passive remediation through natural flushing.

Present Status: No environmental assessment is required. The Colorado Department of Public Health and the Environment approved the selected compliance strategy.

Fiscal Year 2001 Activities: Implement institutional controls. Deed restrictions in process. Submit Ground Water Compliance Action Plan with alternate contaminant levels applicable to the U.S. Nuclear Regulatory Commission

Properties located near these sites may be/have been exposed to some radiation hazards from windblown soil deposits, groundwater, or other radioactive contamination from previous mining, processing, and construction activities. Rural Development environmental reviewers should concentrate on locating such radioactive sites relative to proposed projects and potential foreclosure properties.

The Rocky Flats Nuclear Weapons manufacturing site near Arvada, Boulder, and Golden, Colorado is also currently involved in a different type of DOE remedial action plan.

g) Other References:

- (1) U.S. Department of Energy. List of UMTRA/LTSP sites.

(Web-site)

<http://www.doegjpo.com/>